

REMARKS

Status of the Claims

Claims 26-50 were originally pending. Claims 29, 30, 34-39, 47 and 50 have been withdrawn from consideration and are now canceled. Claims 26-28, 31-33, 40-46, 48 and 49 are now pending. Claims 26-28, 31-33, 40-46, 48 and 49 have been rejected. Claim 1 has been amended. Reconsideration of the application is respectfully requested.

Objection to Claims 32 and 33

The Examiner objected to claims 32 and 33 due to the formality that claims 32 and 33 are duplicative of each other. The Applicant has canceled claim 33. Withdrawal of the objection is respectfully requested.

The Rejections Under 35 U.S.C. §102(b) Should be Withdrawn

Claims 26-28, 32-33, 40-42, 45-46, and 49 have been rejected under 35 U.S.C.102(b) as being anticipated by Lentricchia *et al.* (USP No. 4,960,692). The Examiner argues that Lentricchia *et al.* teaches a sensor molecule attached to a filter and the capability of binding the target antigen just as required by the claims. The Applicant respectfully traverses this rejection.

Lentricchia *et al.* does not anticipate the presently claimed invention for because Lentricchia *et al.* does not disclose all of the limitations of the claims.

Lentricchia *et al.* does not disclose all of the limitations of Claim 26.

Lentricchia *et al.* cannot anticipate Claim 26 because it does not disclose all of the limitations of Claim 26. Lentricchia *et al.* does not teach a method providing said sample suspended in a liquid wherein said sample is suspected of comprising said target molecule; immersing a filter into said liquid containing said sample and pulling said liquid containing said sample transversely through said filter using a pressure-controlling apparatus connected to said filter, wherein said filter comprises a sensor molecule attached thereto and said sensor molecule is capable of specifically binding to said target molecule, if present; binding of said target molecule to said sensor molecule; removing said filter from said sample; detecting the presence of said target molecule specifically bound to said sensor molecule as described in Claim 26. There are a number of limitations in Claim 26 which are not taught or suggested in Lentricchia *et al.*

First, Lentricchia *et al.* does not teach or suggest immersing a filter into a liquid. The method of the present invention describes the immersion of a filter into a liquid and then the removal of the filter from the liquid after the liquid has been pulled transversely through the filter. Lentricchia *et al.* describes passing a reaction mixture through a filter or membrane such as in Example 3 where HCG-sensitized filters were placed in filter holders, each attached with 1 cc tuberculin syringes, and then latex-analyte mixtures were transferred to the syringes and forced through the filters (column 7; lines 46-58). Nowhere in Lentricchia *et al.* is there any mention of contacting a sample with a filter.

Second, Lentricchia *et al.* does not teach or suggest a method of pulling liquid containing sample transversely through the filter using a pressure-controlling apparatus connected to the filter. The Examiner argues that “example 2 teaches detection of the target after passing the sample with a syringe through the filter membrane, thus a pressure controlling apparatus is connected to the filter...” (page 5 second paragraph). The Applicant respectfully disagrees. The method of the present invention specifically describes the immersing of a filter into liquid and pulling the liquid transversely through a filter using a pressure-controlling apparatus. Lentricchia *et al.* describes the exact opposite process of placing a liquid sample onto a filter and pushing the liquid through the filter with a syringe.

Third, Lentricchia *et al.* does not teach or suggest removing the filter from the liquid and detecting the presence of the target molecule specifically bound to the sensor molecule. Again, as mentioned previously, Lentricchia *et al.* does not teach or suggest neither the immersion of the filter into a liquid nor the remove of the filter from the liquid after the binding of a target molecule to the sensor molecule on the filter are described in Lentricchia *et al.*

Since Lentricchia *et al.* does not teach or suggest all of the limitations found in Claim 26, Lentricchia *et al.* cannot anticipate Claim 26 or those claims which depend therefrom (claims 27-28, 32-33, 40-42, 45-46, and 49). Accordingly, for the reasons stated above, Claim 26 and all claims depending therefrom are allowable. Withdrawal of the rejection is requested.

Claims 26-27, 40-43, 45-46, and 48-49 have been rejected under 35 U.S.C.102(b) as being anticipated by Mirkin *et al.* (USP No. 6,417,340). The Examiner argues that Mirkin *et al.* teaches a method for assaying a sample for the presence of a target molecule comprising the claimed steps, just as required by the claims. The Applicant respectfully traverses this rejection.

Mirkin *et al.* does not anticipate the presently claimed invention for because Mirkin *et al.* does not disclose all of the limitations of the claims.

Mirkin *et al.* does not disclose all of the limitations of Claim 26.

Mirkin *et al.* does not teach a method providing said sample suspended in a liquid wherein said sample is suspected of comprising said target molecule; immersing a filter into said liquid containing said sample and pulling said liquid containing said sample transversely through said filter using a pressure-controlling apparatus connected to said filter, wherein said filter comprises a sensor molecule attached thereto and said sensor molecule is capable of specifically binding to said target molecule, if present; binding of said target molecule to said sensor molecule; removing said filter from said sample; detecting the presence of said target molecule specifically bound to said sensor molecule as described in Claim 26. There are a number of limitations in Claim 26 which are not taught or suggested in Mirkin *et al.*

Mirkin *et al.* does not teach or suggest immersing and then removing a filter from a liquid. The method of the present invention describes the immersion of a filter into a liquid and then the removal of the filter from the liquid after the liquid has been pulled transversely through the filter using a pressure controlled apparatus connected to the filter. Mirkin *et al.* describes passing a liquid sample through a membrane using a vacuum, however, there is no teaching or suggestion that the membrane was added to the liquid and then removed from the liquid after the liquid has been pulled transversely through the filter using a pressure controlled apparatus

connected to the filter. Nowhere in Mirkin *et al.* is there any mention of contacting a sample with a filter.

Since Mirkin *et al.* does not teach or suggest all of the limitations found in Claim 26, Mirkin *et al.* cannot anticipate Claim 26 or those claims which depend therefrom (claims 27-28, 32-33, 40-42, 45-46, and 49). Accordingly, for the reasons stated above, Claim 26 and all claims depending therefrom are allowable. Withdrawal of the rejection is requested.

In view of the forgoing, Applicants respectfully request that the Examiner withdraw the pending rejections under 35 U.S.C. §102(b).

The Rejections Under 35 U.S.C. §103(a) Should be Withdrawn

Claim 44 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Lentricchia *et al.* (USP No. 4,960,692) in view of Hurley *et al.* (USP No. 5,256,571). The Applicant respectfully traverses this rejection.

The Applicant restates the arguments made above that Lentricchia *et al.* either alone or in combination, does not teach or suggest immersing a filter into a liquid; does not teach or suggest a method of pulling liquid containing sample transversely through the filter using a pressure-controlling apparatus connected to the filter; and does not teach or suggest removing the filter from the liquid and detecting the presence of the target molecule specifically bound to the sensor molecule as described in Claim 26 from which Claim 44 is depends from. Hurley *et al.* cannot overcome the deficiencies of Lentricchia *et al.* because Hurley *et al.* does not teach or suggest any method of passing a sample through a filter. Without the teaching or suggestion of all the

limitations of Claim 26, Claim 44 can not be rendered obvious by Lentricchia *et al.* either alone or in combination with Hurley *et al.*

For all of the above-discussed reasons, Applicant submits that the rejection of Claim 44 under 35 U.S.C. §103(a) have been overcome. Withdrawal of the rejection is requested.

Conclusion

In light of the arguments presented above, Applicants respectfully submit that the claims are in condition for allowance. Early notice to this effect is solicited. It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 502855 referencing attorney docket number 11.025011.

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CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)Applicant(s): **Lentrichia**

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Examiner

Ja-Na Hines

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Group Art Unit

1645

Invention:

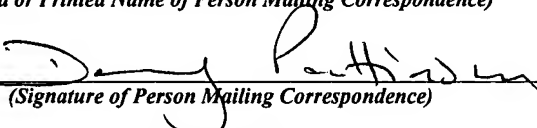
Automated Molecular Assay Platform Using Filter Technology**MAY 23 2007**

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